

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/047967 A1

(51) International Patent Classification⁷: **G02F 1/1368**,
1/1339, H01L 21/288

Semiconductor Energy Laboratory Co., Ltd., 398, Hase,
Atsugi-shi, Kanagawa 243-0036 (JP).

(21) International Application Number:
PCT/JP2004/016795

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
5 November 2004 (05.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-386023 14 November 2003 (14.11.2003) JP

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

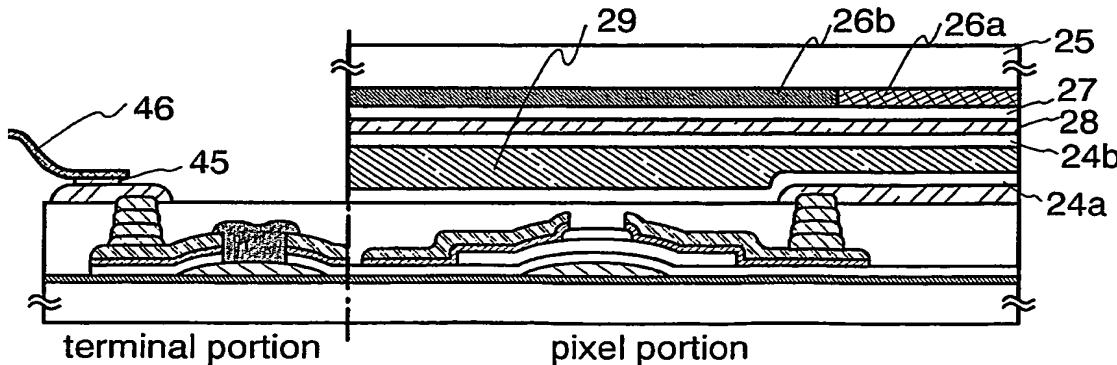
(71) Applicant (for all designated States except US): SEMICONDUCTOR ENERGY LABORATORY CO., LTD. [JP/JP]; 398, Hase, Atsugi-shi, Kanagawa 243-0036 (JP).

(72) Inventors; and
(75) Inventors/Applicants (for US only): YAMAZAKI, Shunpei [JP/JP]; c/o Semiconductor Energy Laboratory Co., Ltd., 398, Hase, Atsugi-shi, Kanagawa 243-0036 (JP). MAEKAWA, Shinji [JP/JP]; c/o Semiconductor Energy Laboratory Co., Ltd., 398, Hase, Atsugi-shi, Kanagawa 243-0036 (JP). FUJII, Gen [JP/JP]; c/o Semiconductor Energy Laboratory Co., Ltd., 398, Hase, Atsugi-shi, Kanagawa 243-0036 (JP). KUWABARA, Hideaki [JP/JP]; c/o

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LIQUID CRYSTAL DISPLAY DEVICE AND METHOD FOR MANUFACTURING THE SAME



(57) Abstract: As a substrate gets larger, time of manufacture is increased due to the repetition of film formations and etchings; waste disposal costs of etchant and the like are increased; and material efficiency is significantly reduced. A base film for improving adhesion between a substrate and a material layer formed by a droplet discharge method is formed in the invention. Further, a manufacturing method of a liquid crystal display device according to the invention includes at least one step for forming the following patterns required for manufacturing a liquid crystal display device without using a photomask: a pattern of a material layer typified by a wiring (or an electrode) pattern, an insulating layer pattern; or a mask pattern for forming another pattern.

WO 2005/047967 A1